

DRAFT

MEMORANDUM FOR: Director Central Intelligence
FROM : Director Data Processing
Director, Office of Central Reference
SUBJECT : SAFE Concerns
REFERENCE : Your ----

1. The enclosed response to the STAP memorandum is submitted for your use in preparing for our meeting on this subject.

STATINTL

2. We propose that Mr. [REDACTED] present a brief summary elaborating on the enclosed material and be prepared to discuss the project status and direction as you see fit.

STATINTL

3. Messrs. [REDACTED] have provided one short briefing on SAFE to the STAP. It appears that a more extended interaction with that body is in order.

4. The first enclosure addresses your expressed specific concerns. The second, the remainder of the STAP memorandum.

CONCERN:

1.0 What steps are being taken to ensure that the Agency, rather than the contractor is in control of the technical aspects of the design of the system?

RESPONSE:

We certainly agree that strong Agency technical management is essential and we believe (K)

1.0 In recognition of the problems of technical communication and management control compounded by geographical separation a number of steps have been taken as follows:

- a) The Government has contracted for a system development rather than technical effort. The contractor is responsible for the ^{that} technical development with government controls as noted below.
- b) The Government defines the functions and performance of the system as seen from a users perspective.
- c) The development is performed to government requirements specification in accordance with MIL Stds. 490 and 154 with government approval required of all specifications and designs.
- d) The Government approves all solicitation documents, evaluation plans and contract awards by TRW.

- e) Monthly formal project reviews are conducted by the CSPO. *Consolidated SFR Project effort (CSPO).*
- f) Technical staff interaction daily by phone and virtually continuously through travel maintains communication.
- g) The contractor has several permanent representatives located in Rosslyn.
- h) A full time representative is being considered for transfer to California.
- i) Travel will continue to be heavy in any event.
- j) Delays in decision making are not geographical problems. They are problems associated with hard choices. An on-site representative could provide oversight and some guidance but those problems of larger scope are not one-man problems.
- k) The Agency has in place a strong technical management team. The contract effort is under control and the needs of two Agencies are being addressed successfully.

CONCERN:

2.0 How is SAFE management ensuring that a final working system has been developed from the continuing evolution of an operationally valid pilot system? How has SAFE taken advantage of the experience of similar, very large systems in their:

- 1) system architecture,
- 2) communication and control, and
- 3) changing performance requirements?

Insert next 3 questions. →

RESPONSE:

2.0 ^{which will be delivered at IOC in 1982} The "operationally valid pilot system" from which evolution will take place is the IOC system ^{Experience with the} "Interim" SAFE system ^(initiated in 1973) is being used in building the operational system.

Data and usage patterns, as well as user reactions, are used in requirements specifications, system sizing, function allocation and usage scenario development. Further, message and query analyses are being used to estimate traffic on the "final" system.

In order to ensure future adaptability and capability to meet changes - existing type computers
We have dictated the maximum use of general purpose ~~ADPE~~ and software to ensure that the changes required in future years can be accommodated.

The system architecture proposed is based on TRW and Government experience with large systems. It distributes communications and control functions as well as file processing such that bottlenecks are avoided and parallel expansion is possible without redesign. New functions may be added at

*Ref
Design
competition
here*

either the top ^{or} ~~on~~ mid-level processors, ~~and~~ ^{functions} may be moved between levels to compensate for loading or usage changes.

We expect the initial system to have ~~many~~ shortcomings. All major systems do. ~~We are striving to do two things:~~

- ~~a) Provide valuable and reasonable service to a significant user population and~~
- ~~b) Permit change and improvement in future years.~~

however, that
We expect, ^{will} the initial system to provide significant improvements in service and value over the current environment.

The STAP in the STAP memorandum
~~The~~ ^{cautionary note} is well founded. We should expect ^{an} ~~an~~ ^{introductory period} ~~introductory period~~ for services of up to a year and further ^{after which it} ~~and~~ ^{system will continue to evolve} ~~should expect to continue evolution~~ in future years. The

SAFE budget for 1982 and beyond recognizes this process.

Again, the IOC system is the "operationally valid" pilot system from which the long range system will evolve.

CONCERN:

3.0 The SAFE user community consists of Intelligence Community analysts covering the full spectrum of research into foreign political, military, economic, scientific, and technological activity. Their effective use of this system and, ultimately, the quality of intelligence they produce rest on whether their real needs can be identified and satisfied by the system.

RESPONSE:

3.0 ~~The STAP memo assertion that "the SAFE user community consists of Intelligence Community analysts" (See item C)~~ *The STAP memo assertion that "the SAFE user community consists of Intelligence Community analysts"*

There has been more user involvement in the definition of the SAFE System than any system with which we are familiar. The interaction is continuing to refine and revalidate the system functions with the user. ~~We come precariously close at times to providing too much input to the process and de railing the development effort.~~ The CSPO maintains the balance of interactions with the contractor and - through *OCR's Syst. Analysis Staff and DIA's* user representatives - the user.

Insert ①

All data gathered on the interim system usage has been forwarded to TRW. All prior study material has likewise been forwarded. These data are used to develop system design and flow threads. *H from C*

③
③

+ Training

CONCERN:

4.0 How can the Agency make a reasonable evaluation of the current status of SAFE with major portions of the proposed operational capabilities either unspecified or uncommunicated to the Agency? For example,

- 1) the user command language and its parsing,
- 2) the user programming language,
- 3) the user editing languages, and
- 4) procedures for backup, including regeneration of derived files lost in crashes.

RESPONSE:

4. ^{including user languages & backup capability,}
~~The~~ ^{all} operational capabilities, required are specified in the ^{spell out} CSRD written by the Government. The contractor's translation of those capabilities to system design are encompassed in the ^{numerous systems} "A" Specification, ~~System Design Specification~~ and sub-system and element specifications. These are being developed on schedule with a normal amount of difficulty. Problems are addressed early in the process and corrective action is taken. ~~Frequent meetings and exchanges of documents and views are expected to yield an acceptable result when the design documents are prepared.~~ ^{result in a response} Contract schedule, cost and management are all monitored for signs of difficulty.

For example, (languages)

CONCERN:

5.0 What actions are under way to insure that the Intelligence Community has access to CIA SAFE and that CIA SAFE has access to DIA SAFE as well as such systems as COINS and SOLIS?

RESPONSE:

5.0 The basic system requirement has been given the contractor to provide interconnection between the two Agencies. Five lines will be provided with expansion capacity to 25. The control of access, differing security clearance practices and control of limited access information will have to be worked out among the using and security organizations of the Agencies. With the security features of the system being developed, it is hoped that administrative procedures and software safeguards will be adequate.

STATINTL

Insert from [redacted] →

Generalized community access has not been envisioned in the initial system and presents additional security and, more vitally, loading problems. ~~Provisions for further linkages can be provided for later use, but the use of such a linkage must be defined early within the community if it is to be developed.~~ *As already noted in the*

response to Q 7, 1

~~This is a major deviation from the basic SAFE concept.~~

** To ind. 3* { We believe that a "community" system should be developed after SAFE and that SAFE would be a prototype for replication and potentially be a node in a community network.

CONCERN:

STATSPEC

6.0 How will SAFE deal with open source material? Will [REDACTED] material, either finished publications or field reporting, be made available to the analyst through SAFE? How will SAFE deal with current newspaper and journal entries?

STATINTL

RESPONSE:

Insert from [REDACTED]

STATSPEC

6. [REDACTED] is an input to SAFE. Both finished [REDACTED] reports and raw input are supplied to SAFE. Other open sources ~~have not been planned for on-line access.~~ Wire services, if subscribed to, can be added either on-line or as separate collectors for periodic input to SAFE. Data banks such as N.Y. Times may be added, with adequate protection, for use from analysts workstations. This has not been asked for, but if required by the user it may be added at moderate expense as a controlled link. It is currently available in the Terminal Access Room and this indirect link will be used initially.

CONCERN:

7.0 What steps are being taken to ensure that SAFE will be designed to allow collaborative usage?

RESPONSE:

will be a part of SAFE
7. Teleconferencing ~~will not be eliminated or deferred~~
~~for later implementation as initially proposed by TRW. This~~
will be permitted between ^{*CIA and DIA*} Agencies ~~as well as within each~~
Agency, *within security constraints as noted in the response*
to Q 5.

The generalized routing function will also be used for staffing and coordination as well as for further dissemination of information.

security clear
We agree that these functions will be of considerable value. Conferencing has consistently appeared low on the list of priorities since routing partially fulfilled that need.

CONCERN:

8.0 What steps are under way to ensure that in the procurement of major hardware items, these items will be compatible with existing Agency systems?

RESPONSE:

quantity of
The ~~small~~ *compact* is *comprised* all by the
8. *fact that CIA and DIA*
The Agencies involved have different hardware. CIA ^{uses} ~~uses~~ ^{ODP}
IBM-compatible equip is an IBM shop while DIA is Honeywell. ^{uses mainly equip} Compatibility

has been factored into the hardware RFP and a value ^{has been} ~~set~~
established ~~on it~~ for cost evaluation. ^{purposes.} Incumbent ^{IBM-compatible and Honeywell} vendors thus have

a cost advantage roughly equivalent to anticipated cost of supporting varied architectures.

between SAFE and existing systems in each Agency
Interconnection ^{with} is planned and is part of the contracted effort. The interface software for SAFE has been considered as a direct contract cost. The existing system protocols are specified to which SAFE must interface.

CONCERN: C. "As Described by -.....

R *June 1*
RESPONSE: The ~~SAFE user community~~ has defined the functions which the system is to perform. ~~The Consolidated~~ ^(CSPO) SAFE Requirements Document, which is the foundation of the technical development, was developed with and largely by the ^{NFAC and DIA} using community. In the CIA this work began in 1972 and has included:

- o Pilot groups of 50 analysts defining useful functions
- o Pilot systems development in 1973/4
- o Pilot branches to date provide usage data
- o User work shops in 1975
- o 600 analyst survey in 1976
- o SAFE Procedures Development Laboratory
- o Project Upstairs/Downstairs with analysts
- o Newsletters
- o Direct interaction with CSPO and contractor of NFAC user representatives

In DIA there are 57 points of contact in user organizations who provide advice on requirements and are fully informed of project status. An extended data collection effort from 1977 to the present has developed user requirements which have been staffed with top level user management.

2
Four former analysts are resident in the CSPO to control the flow of ^{and focus} requirements and to ensure that they are met. This group coordinates heavily with both Agencies.

CONCERN: D. How can CIA ---....

RESPONSE: The Government defines the functional and operational capabilities of the system. The Consolidated System Requirements Document is a contractually binding document. The current evaluation of SAFE centers primarily on the contractor's performance in meeting the requirements. In such areas as user language development, a close interaction with the user representatives and the contractor to minimize the time required for a satisfactory language definition. For example, Mr. [REDACTED] of NFAC worked with TRW the week of 17 March in a continuing liaison to ensure that user scenarios used for language/interaction definition and design are correct.

STATINTL

CONCERN: B. How will SAFE deal with Open Source Material?

STATSPEC RESPONSE: [REDACTED] continue as a direct input to SAFE. Raw input is provided electrically. Other open source material is available on separate terminals, but may be accumulated directly if required. Interactive data bases and their use require connections with outside communications which have been forbidden on security grounds. An intermediate process can be introduced to provide isolation should vastly improved access be required by the user.

Vast quantities of open source material are and will be entered by OCR and individual analysts from periodicals, newspapers, etc. OCR has begun experimentation with Optical Character Reader processing of printed copy. This may provide further input in significant volumes.

Response to Specific Concerns Regarding SAFE

CONCERN: A. There are no plans at present to connect the CIA and DIA SAFE Systems.

RESPONSE: The CIA and DIA SAFE systems will be interconnected. Since neither Agency's users have specified this connection as a requirement, the contractor did not include it in his initial System Requirements Specification. The project office has initiated a change order to include the connection in early 1984. Five lines are planned initially with expansion capacity to twenty-five in the initial design.

DIA SAFE has access to COINS and thus to SOLIS. The CIA analyst will thus be able to access these systems via this link.